

CHECKLIST TO DESIGNATE AREAS OF EVALUATION FOR REQUESTS FOR PROPOSAL (RFP)

MDOT PROJECT MANAGER Lori Noblet			JOB NUMBER (JN) 88874	CONTROL SECTION (CS) 82211
DESCRIPTION IF NO JN/CS M-85/CN Railroad Feasibility Study				
MDOT PROJECT MANAGER: Check all items to be included in RFP. WHITE = REQUIRED GRAY SHADING = OPTIONAL			CONSULTANT: Provide only checked items below in proposal.	
Check the appropriate Tier in the box below				
<input type="checkbox"/> TIER I (\$25,000-\$99,999)	<input type="checkbox"/> TIER II (\$100,000-\$250,000)	<input checked="" type="checkbox"/> TIER III (>\$250,000)		
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Understanding of Service	
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<i>Innovations</i>	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<i>Safety Program</i>	
N/A	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Organization Chart	
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Qualifications of Team	
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Past Performance	
Not required as part of official RFP	Not required as part of official RFP	<input checked="" type="checkbox"/>	Quality Assurance/Quality Control	
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Location. The percentage of work performed in Michigan will be used on all contracts unless the contract is for on-site inspection, then location should be scored for the on-site inspection.	
N/A	N/A	<input type="checkbox"/>	Presentation	
N/A	N/A	<input type="checkbox"/>	Technical Proposal (if Presentation is required)	
3 pages including cover sheet (No Resumes)	7 pages	19 pages	Total maximum pages for RFP not including key personnel resumes	

REQUEST FOR PROPOSAL

The Michigan Department of Transportation (MDOT) is seeking professional services for the project contained in the attached scope of services.

If your firm is interested in providing services, please indicate your interest by submitting a Proposal, Proposal/Bid Sheet or Bid Sheet as indicated below. The documents must be submitted in accordance with the latest "Consultant/Vendor Selection Guidelines for Service Contracts" and "Guideline for Completing a Low Bid Sheet(s)", if a low bid is involved as part of the selection process. **Referenced Guidelines are available on MDOT's website under Doing Business > Requests for Proposals.**

RFP SPECIFIC INFORMATION

☐ BUREAU OF HIGHWAYS ☒ BUREAU OF TRANSPORTATION PLANNING ** ☐ OTHER

THE SERVICE WAS POSTED ON THE ANTICIPATED QUARTERLY REQUESTS FOR PROPOSALS

☐ NO ☒ YES DATED 10/1/06 THROUGH 12/31/06

<input checked="" type="checkbox"/> Prequalified Services – See page <u>1</u> of the attached Scope of Services for required Prequalification Classifications.	<input type="checkbox"/> Non-Prequalified Services - If selected, the vendor must make sure that current financial information, including labor rates, overhead computations, and financial statements, if overhead is not audited, is on file with MDOT's Office of Commission Audits. This information must be on file for the prime vendor and all sub vendors so that the contract will not be delayed.
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☒ **Qualifications Based Selection** – Use Consultant/Vendor Selection Guidelines

For all Qualifications Based Selections, the selection team will review the information submitted and will select the firm considered most qualified to perform the services based on the proposals. The selected vendor will be contacted to confirm capacity. Upon confirmation, that firm will be asked to prepare a priced proposal. Negotiations will be conducted with the firm selected.

**** For RFP's that originate in Bureau of Transportation Planning only**, a price proposal must be submitted at the same time as, but separate from, the proposal. Submit directly to the Contract Administrator/Selection Specialist, Bureau of Transportation Planning (**see address list, page 2**). The price proposal must be submitted in a sealed manila envelope, clearly marked in large red letters **"PRICE PROPOSAL – TO BE OPENED ONLY BY SELECTION SPECIALIST."** The vendor's name and return address **MUST** be on the front of the envelope. The price proposal will only be opened for the highest scoring proposal. Unopened price proposals will be returned to the unselected vendor(s). Failure to comply with this procedure may result in your bid being opened erroneously by the mail room.

For a cost plus fixed fee contract, the selected vendor must have a cost accounting system to support a cost plus fixed fee contract. This type of system has a job-order cost accounting system for the recording and accumulation of costs incurred under its contracts. Each project is assigned a job number so that costs may be segregated and accumulated in the vendor's job-order accounting system.

☐ **Qualifications Review / Low Bid** - Use Consultant/Vendor Selection Guidelines. See Bid Sheet Instructions for additional information.

For Qualification Review/Low Bid selections, the selection team will review the proposals submitted and post the date of the bid opening on the MDOT website. The notification will be posted at least two business days prior to the bid opening. Only bids from vendors that meet proposal requirements will be opened. The vendor with the lowest bid will be selected. The selected vendor may be contacted to confirm capacity.

☐ **Best Value** - Use Consultant/Vendor Selection Guidelines. See Bid Sheet Instructions below for additional information. The bid amount is a component of the total proposal score, not the determining factor of the selection.

☐ **Low Bid** (no qualifications review required - no proposal required.) See Bid Sheet Instructions below for additional instructions.

BID SHEET INSTRUCTIONS

A bid sheet(s) must be submitted in accordance with the "Guideline for Completing a Low Bid Sheet(s)" (available on MDOT's website). The Bid Sheet is located at the end of the Scope of Services. Submit bid sheet(s) separate from the proposal, to the address indicated below. The bid sheet(s) must be submitted in a sealed manila envelope, clearly marked in large red letters **"SEALED BID – TO BE OPENED ONLY BY SELECTION SPECIALIST."** The vendor's name and return address **MUST** be on the front of the envelope. Failure to comply with this procedure may result in your bid being opened erroneously by the mail room.

PROPOSAL SUBMITTAL INFORMATION

REQUIRED NUMBER OF COPIES FOR PROJECT MANAGER 7	PROPOSAL DUE DATE 2/5/07	TIME DUE 5:00 p.m.
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PROPOSAL AND BID SHEET MAILING ADDRESSES

Mail the multiple proposal bundle to the MDOT Project Manager or Other indicated below.

☒ MDOT Project Manager ☐ MDOT Other

Lori Noblet, Project Planning Division
Michigan Department of Transportation
425 West Ottawa Street, P.O. Box 30050
Lansing, Michigan 48909

Mail one additional stapled copy of the proposal to the Lansing Office indicated below.

Lansing Regular Mail	OR	Lansing Overnight Mail
<input type="checkbox"/> Secretary, Contract Services Div - B225 Michigan Department of Transportation PO Box 30050 Lansing, MI 48809		Secretary, Contract Services Div - B225 Michigan Department of Transportation 425 W. Ottawa Lansing, MI 48833
<input checked="" type="checkbox"/> Contract Administrator/Selection Specialist Bureau of Transportation Planning B340 Michigan Department of Transportation PO Box 30050 Lansing, MI 48809		Contract Administrator/Selection Specialist Bureau of Transportation Planning B340 Michigan Department of Transportation 425 W. Ottawa Lansing, MI 48833

GENERAL INFORMATION

Any questions relative to the scope of services must be submitted by e-mail to the MDOT Project Manager. Questions must be received by the Project Manager at least four (4) working days prior to the due date and time specified above. All questions and answers will be placed on the MDOT website as soon as possible after receipt of the questions, and at least three (3) days prior to the RFP due date deadline. The names of vendors submitting questions will not be disclosed.

MDOT is an equal opportunity employer and MDOT DBE firms are encouraged to apply. The participating DBE firm, as currently certified by MDOT's Office of Equal Opportunity, shall be listed in the Proposal

MDOT FORMS REQUIRED AS PART OF PROPOSAL SUBMISSION

- 5100D – Request for Proposal Cover Sheet
- 5100G – Certification of Availability of Key Personnel

(These forms are not included in the proposal maximum page count.)

**SCOPE OF SERVICES
FOR A RAILROAD GRADE SEPARATION
FEASIBILITY STUDY**

**M-85 (Fort Street) @ CN Railroad Crossing
City of Trenton
Wayne County**

PROJECT LOCATION: M-85 (Fort St) @ CN Railroad Crossing
CONTROL SECTION: 82211
JOB NUMBER: 88874

Primary Prequalification Classification:

Railroad Bridge Design
Short and Medium Span Bridges
Road and Street Design

Secondary Prequalification Classification:

Environmental Assessment & Impact Statements-Surface Transportation
Road Design Surveys
Traffic Operation Studies
Geotechnical Engineering Services

The anticipated start date of the service is April 9, 2007.

The anticipated completion date for the service is December 31, 2007

DBE Requirement: 10%.

MDOT Project Manager: Lori Noblet
Michigan Department of Transportation
Project Planning Section
425 W. Ottawa Street
P.O. Box 30050
Lansing, Michigan 48909
Email: nobletl@michigan.gov

I. SCOPE OF VENDOR DUTIES

This scope of services is for the preparation of a feasibility study for a potential grade separation at M-85 (Fort Street) and the CN Railroad in the City of Trenton, Wayne County, Michigan (see Figure 1). The purpose of the study is to provide sufficient engineering analysis for the development and screening of alternatives and a baseline cost estimate for each alternative. The Feasibility Study will also include detailed analysis necessary to determine the severity of the existing problems that occur at the grade crossing. These problems include:

- Trains impede emergency vehicles (Fire, EMS, and Police).
- Two schools will be closing, requiring children to be transported to the other side of the railroad tracks. Buses and parents are often delayed getting children to school.
- Riverside Hospital is now closed, so all of the ambulances go to Oakwood, south of Van Horn Road. This impedes ambulance service to the population that was formerly served by Riverside. The City routinely sends out two emergency vehicles, in two different directions, in case one is impeded by a train.
- Trains have become much longer and sometimes they block both Fort Street and Allen Road
- CN and Conrail share tracks. Conrail controls the interlocker. CN trains may be given lower priority. Thus, CN trains can be held up, blocking crossings for long periods.
- Truck mobility in the area is an issue. Fort Street is an important truck route. There is the Daimler Chrysler Engine Plant west of Fort Street on Van Horn, and the Ford Woodhaven Plant at West Road and I-75. Both of these plants generate truck traffic and both Plants are served by CN Railroad.
- The CN trains transport coal to the Trenton Channel Detroit Edison plant. A train with a load of coal is expected to wait to be unloaded.
- Local residents sometimes have to cross over more than one at grade crossing. This can cause delays in reaching their destinations.

The VENDOR will address the constraints surrounding the railroad crossing; and will analyze and evaluate at a minimum vehicular and train traffic, road geometrics, railroad crossing geometrics, and will propose feasible alternative(s) for a potential grade separation. The feasibility study will include a traffic operation study of M-85 (Fort St) and the CN Railroad crossing. The Vendor will coordinate with the Federal Railroad Administration to address any potential rail safety regulatory issues.

The scope of this project will include:

1. Feasibility Study

- a. Inventory existing conditions, including existing soil conditions which may require soil boring at various locations.
- b. Analyze existing plans, aerials and documents
- c. Conduct a field review
- d. Review traffic data, both vehicle and train as necessary (MDOT has collected both vehicle and train counts for this project)
- e. Collect emergency services data
- f. Determine existing and future travel patterns of motorists, school buses, and emergency service vehicles
- g. Perform Crash analysis at crossing and nearby intersections (MDOT has collected Crash data for this project)
- h. Survey topographic information
- i. Create a condition diagram (include photographic diary to document existing conditions)

M-85 at CN Railroad Crossing City of Trenton, Wayne County, Michigan

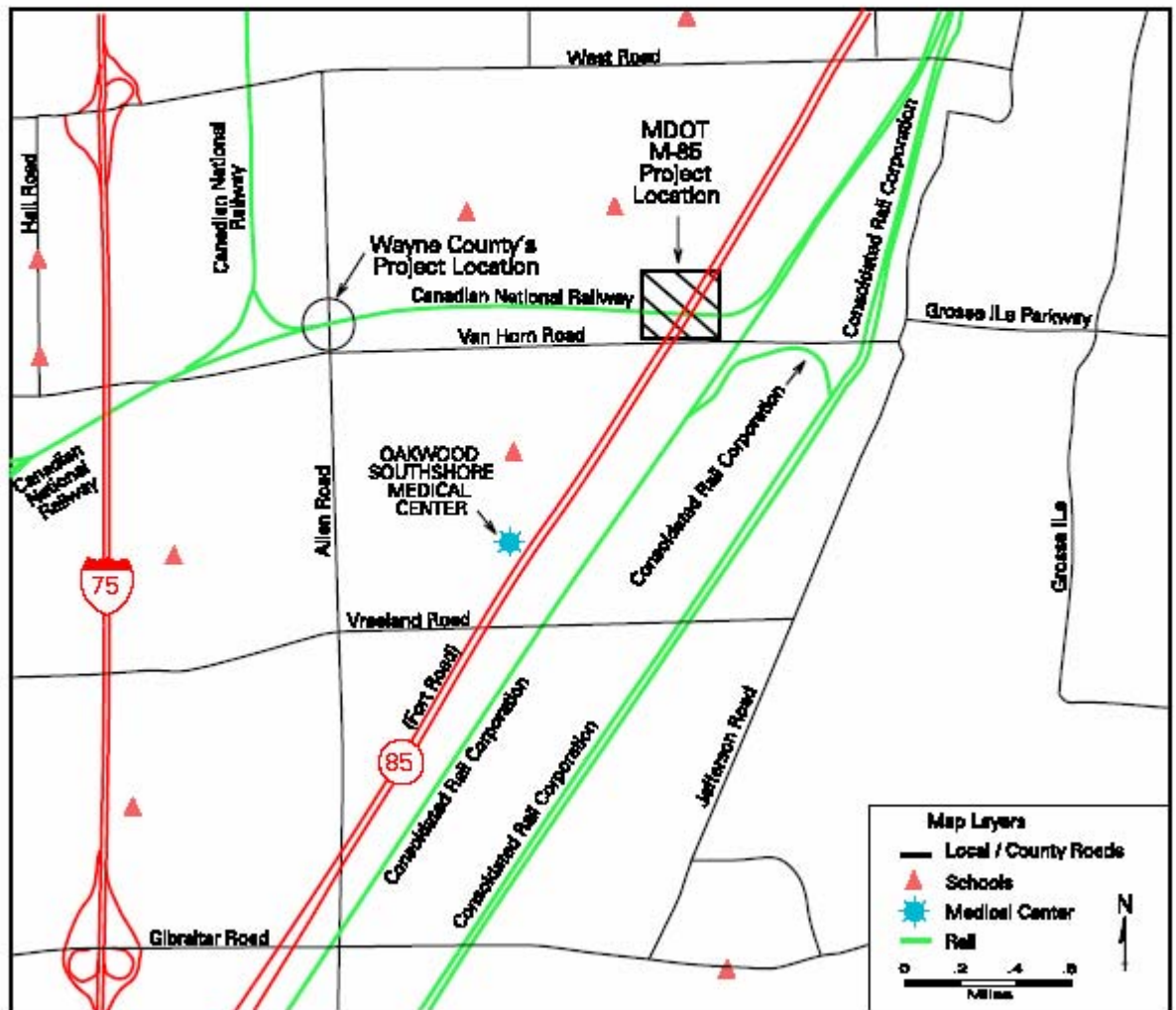


FIGURE 1 – PROJECT LOCATION

2. Analyze existing traffic operational conditions
 - j. Analyze with highway capacity software (HCM 2000) and Synchro simulation
 - k. Develop recommendations based on analysis
3. Estimate future (year 2030) conditions using transportation models maintained by the Southeast Michigan Council of Governments (SEMCOG)
 - a. Estimate future traffic and train volumes
 - b. Travel patterns
 - c. Identify future deficiencies
 - d. Develop alternatives such as potential geometric improvements, safety, etc.
4. Conduct an engineering analysis to properly identify feasible and geometrically accurate alternatives, including upgrading the existing system and in addition to exploring other feasible alternatives. The analyses should include geometric layout drawings, advantages and disadvantages of each layout, impacts on: environmental, bridges, existing horizontal and vertical alignments, utilities, and real estate.
5. Determine potential environmental impacts, including existing soil conditions.
6. Estimates of the probable cost for construction including context sensitive solutions, and real estate costs for each alternative proposed including an economic analysis.
7. Prepare presentation boards and PowerPoint presentations for stakeholder meetings, the kickoff meeting and the public information meeting.
8. Prepare a preliminary and a final study report.
9. Conduct coordination meetings with MDOT staff, federal agencies, and stakeholders to gather necessary data and discuss potential alternatives.
10. There will be one Kick-off meeting with the public at the beginning of the study and one public information meeting to present the alternatives to the public.
11. Provide solutions to any unique issues that may arise during the design of this project or that may affect the constructability of this project.
12. Coordination with Wayne County and or their representative. Wayne County is conducting a study on the Allen Road and CN railroad crossing (Shown in Figure 1). The Allen Road/CN Railroad crossing is less than a mile from the Fort Street/CN Railroad crossing. The two studies will need to be coordinated to best address the needs of the local communities.

The final feasibility study will also need to address the following:

1. Are traffic volumes increasing along M-85 and adjacent local roads, and what is the annual rate growth? Will this trend continue?
2. Are there alternative routes available when the Trains impede emergency vehicles (Fire, EMS, and Police)? Identify.
3. What recourse do local communities have to limit the length of trains and the amount of time a train can be stopped at a crossing?
4. Has there been increased growth within the last 5 years in the downriver communities of Trenton, Woodhaven, Brownstown, Grosse Ile, and Riverview? Also, will the current trends in area land development cause an increase or decrease in rail activity?
5. General environmental impacts including land-use and community concerns.
6. Estimate costs of the project, including CSS opportunities.

II. PROJECT LOCATION

The project is located on M-85 (Fort St) just north of Van Horn Road at CN Railroad crossing, in the City of Trenton, Wayne County, Michigan.

III. PROJECT DESCRIPTION

This study consists of all work necessary to complete a feasibility study at the above location, prepare potential grade separation alternatives with the goal of minimizing impacts to the surrounding area. The end result of this study should focus on providing safe, effective, efficient, and economical access to employment, educational opportunities and essential community services.

The traffic operation study will review current and future traffic needs at the potential grade crossing and along M-85 as described above. Proposed developments in the area will be analyzed and included in the analysis.

Work shall conform to current MDOT, FHWA, FRA, FTA, AASHTO, AREMA (American Railroad Engineering and Maintenance of Way Association), and CN practices, guidelines, policies, and standards (i.e., Road Design Manual, Bridge Design Manual, Standard Plans, Drainage Manual, Roadside Design Guide, A Policy on Geometric Design of Highways and Streets, Michigan Manual of Uniform Traffic Control Devices, etc.).

The feasibility study will include six (6) tasks. The tasks are the following:

- Task 1: Inventory existing road and railroad conditions
- Task 2: Analyze existing road and railroad conditions
- Task 3: Determine future (year 2030) conditions
- Task 4: Prepare Traffic Operation Study
- Task 5: Evaluate up to four alternatives and the no build
- Task 6: Prepare Feasibility Study

All tasks will be performed by the VENDOR. A kick-off meeting for the study with MDOT will occur in order to provide direction and information already gathered for this study. The performance of the proposed improvement alternatives will be evaluated using intersection capacity analysis (Highway Capacity Software 2000), Synchro simulation, and other analysis methods/software as appropriate. The performance of the alternatives in terms of level of service and accessibility will be compared, as well as cost, impact and feasibility of each improvement alternative.

Cost estimates for the construction of the various grade separation alternatives will be developed as a part of this project. Preliminary cost estimates for all the improvement alternatives will be prepared based on year 2007 cost estimates. This will be prepared using an excel format, latest version.

In addition to the construction cost estimates of the various grade separation alternatives, this project will require the preparation of an economic analysis. The decision to grade separate a highway-rail crossing is primarily a matter of economics. Investment in a grade separation structure is long-term and impacts many users. Such decisions should be based on long term, fully allocated life cycle costs, including both highway and railroad user costs rather than on initial construction costs.

Economic analysis should consider the following:

- eliminating train/vehicle collisions (including the resultant property damage and medical costs, and liability);
- savings in highway-rail grade crossing surface and crossing signal installation and maintenance costs;
- driver delay cost savings;
- costs associated with providing increased highway storage capacity (to accommodate traffic backed up by a train);
- fuel and pollution mitigation cost savings (from idling queued vehicles);
- effects of any "spillover " congestion on the rest of the roadway system;
- the benefits of improved emergency access;
- the potential for closing one or more additional adjacent crossings; and
- possible train derailment costs.

IV. PROJECT SCHEDULE

The scheduled completion date for the Final Feasibility Study is December 31, 2007. A minimum of 10 working days will be needed for MDOT review of the draft traffic study before it is finalized. The VENDOR shall use the following events to prepare the proposed implementation schedule as required in the Guidelines for the Preparation of Responses on Assigned Services Contracts. These dates shall be used in preparing the VENDOR'S Monthly Progress Reports.

Dates	Task
April 9, 2007	Authorization To Proceed
April 25, 2007	Kick Off Meeting for the Public
June 27, 2007	Develop Traffic Study & Preliminary Alternatives
July 24, 2007	Meet with MDOT to Review Preliminary Alternatives, including Traffic Analysis
August 21, 2007	Refine Alternatives and Traffic Study
September 19, 2007	Meet with MDOT Team to Review Refined Alternatives and Traffic Study

October 17, 2007	Hold Public Information Meeting
November 2, 2007	Review comments received at the Pubic Information Meeting and select a preferred alternative
December 5, 2007	Finalize Feasibility Study for MDOT Review
December 31, 2007	Submit Final Report

V. PAYMENT SCHEDULE

Compensation for this Scope of Services shall be on an Actual Cost plus Fixed Fee Basis. The VENDOR will not be reimbursed for costs associated with correcting errors or omissions by the VENDOR.

All invoices/bills must be submitted within 14 calendar days of the last date of services being performed for that invoice.

The fixed fee allowed for this project is 11.0%

VI. MONTHLY PROGRESS REPORT

Monthly Progress Report will be required for this project and emailed to the Project Manager. These will include at a minimum the following information:

- a. Work Accomplished During the Previous Period
- b. Anticipated Work Items for the Upcoming Month
- c. Real or Anticipated Problems on the Project
- d. Update or Previously Approved Detail Project Schedule, including Explanations for Any Delays or Changes
- e. Items needed from MDOT
- f. Log-in/Log-Out and Verbal Contact Records to Date

VII. FORMAT

The Draft and Final Traffic Study Reports and the Feasibility Study shall be presented on regular letter size paper (8½" x 11") with the exception of maps, sketches and diagrams which shall be on 11" x 17" paper (and folded to match the 8½" x 11" paper). This report shall also be saved in an Adobe Acrobat file format and saved on CD with 15 paper copies and 4 CDs provided to MDOT.

A cover sheet indicating Control Section, Job Number, Route, and location description shall also be included. There shall be **15** paper copies of the Draft and Final Traffic Technical Reports and 30 paper copies of the Feasibility Study to MDOT. Any photographs included in

the documents shall be in an electronic .jpg format with printouts at 4" x 6", in color, labeled with the location, direction from which the picture was taken, date and particular feature needing improvement.

All project related items are subject to review and approval by the Project Manager. The VENDOR shall follow MDOT English procedures, requirements and policies.

VIII. TRAFFIC CONTROL AND MDOT AND CN PERMITS

The VENDOR shall be responsible for all traffic control required to perform the tasks as outlined in this Project Scope of Services.

The VENDOR shall be responsible for obtaining up to date access permits and pertinent information for tasks in MDOT Right of Way (ROW).

The Vendor shall be responsible for obtaining any CN Permits and Railroad Flagging for work on CN Right of Way.

IX. MAJOR UTILITIES

The VENDOR shall be responsible for obtaining and showing on the plans the location and names of all existing utilities within the limits of the project for all practical alternatives. In addition, the VENDOR shall be responsible for any analyses and consequences of the proposed action on surface and groundwater resources.

X. PRE-QUALIFICATION AND SUBCONTRACTING OF CONTRACT WORK

The prime vendor must be pre-qualified under the "Railroad Bridge Design, Short and Medium Span Bridges, and Road and Street Design" classifications. Any secondary prequalification classifications for which the VENDOR is not pre-qualified must be completed by a subcontractor that is pre-qualified for that classification(s).

The Department's prequalification is not a guarantee or warranty of the subcontractor's ability to perform or complete the work subcontracted. The VENDOR remains fully responsible to the Department for completion of the work according to the contract as if no portion of it had been subcontracted.

All subcontractor communications with the Department shall be through the VENDOR to the MDOT Project Manager. This requirement may be waived if a written communication plan is approved by the MDOT Project Manager.

The Department may direct the immediate removal of any subcontractor working in violation of this subsection. Any costs or damages incurred are assumed by the VENDOR by acceptance of the contract. It is further understood that the VENDOR's responsibilities in the performance of the contract, in case of an approved subcontract, are the same as if the VENDOR had handled the work with the VENDOR's own organization.

X. VENDOR RESPONSIBILITIES (GENERAL)

Meet with the MDOT Project Manager to review project, location of data sources and contact persons, and review relevant MDOT operations. The VENDOR shall review and clarify project issues, data needs and availability, and the sequence of events and team meetings that are essential to complete the design by the project plan completion date. Attention shall be given to critical target dates that may require a large lead time.

1. Maintain a Design Project Record which includes a history of significant events (changes, comments, etc.) which influenced the study and development of the plans, dates of submittals and receipt of information.
2. The VENDOR representative shall record and submit type-written minutes for all project related meetings to the MDOT Project Manager for her approval within two weeks of the meeting. The VENDOR shall also distribute the approved minutes to all meeting attendees.
3. Attend any project-related meetings as directed by the MDOT Project Manager.
4. The VENDOR will review and document conformance for each improvement alternative, as per design standards, and recommendation. Identify areas where standards cannot be met, give justification and documentation as to the reason.
5. The VENDOR will review and document the roadside safety related items which need to be addressed or included in the study. Documentation is to include location, existing type and condition, and the recommended treatment.
6. The VENDOR will incorporate any MDOT identified safety improvement countermeasures based on MDOT's crash analysis recommendations.
7. The VENDOR will document and identify locations of possible environmental issues, including existing soil conditions which may impact the project, and estimate the cost of treatment.
8. The VENDOR will specifically identify any local participation that is required and/or requested for the project area.
9. The VENDOR will incorporate any MDOT identified and/or approved (if approved, include copy of MDOT approval) local needs/requests into study.
10. The MDOT Project Manager shall be the official MDOT contact person for the VENDOR. The VENDOR must either address or send a copy of all correspondence to the MDOT Project Manager. This includes all Subcontractor correspondence and verbal contact records. The MDOT Project Manager shall be made aware of all communications regarding this project.

11. The VENDOR shall contact the MDOT Project Manager whenever discoveries or design alternatives have the potential to require changes in the scope, limits, quantities, costs, or right-of-way of the project.
12. Inventory existing road and railroad conditions. This includes the collection of both vehicle and train data (only if additional data is needed after reviewing MDOT's vehicle and train data).
13. Analyze existing road and railroad conditions.
14. Determine future (year 2030) conditions.
15. Develop and evaluate alternatives based on future (year 2030) conditions.
16. Prepare a final feasibility study with preferred alternative.

XI. MDOT RESPONSIBILITIES (GENERAL)

1. Work with Vendor to schedule and/or conduct the Project related meetings.
2. Coordinate activities that require MDOT personnel.
3. Furnish existing information for the area, including traffic and counts.
4. MDOT cost estimate form, etc.
5. Furnish old plans of the area, if available.
6. Supply information on existing pavement or bridge structures as necessary.
7. Furnish ROW maps of the project area.
8. Furnish available crash data for intersection and road segments of study.

M-85 (Fort Street)/ at the CN Railroad Grade Separation Feasibility Study

Scope of Work Tasks

The scope of work task for the feasibility study will include the following:

1. Train volumes, both current and projected;
2. Vehicle AADT (Annual Average Daily Traffic), both current and projected;
3. Train patterns as to traveling speed & type (Passenger, freight, other) and stopping patterns;
4. Federal Railroad Administration classification of track and type of warning device present;
5. An estimate of the amount of average daily and average annual amount of time the trains cause the crossing to be affected;
6. Prior crash history and predicted crash accident frequency at railroad crossings;
7. Functional classification of highway and legal speed limit;
8. Commercial/truck traffic and route;
9. Location of emergency services (Hospital, Fire, EMS, and Police Stations);
10. Community services (fire, police, school bus, EMS) affected by blocked crossings, specifically the average frequency and delay time encountered;
11. Evaluation of alternative routes to avoid train blockages;
12. Evaluate the potential for a possible grade separation at Allen Road or adjacent crossing location;
13. Number of homes and businesses in the geographic area impacted by the train delays;
14. Brief engineering evaluation as to complexity of the grade separation;
15. Design alternatives for constructing a grade separation;
16. Estimate the number of homes and businesses directly affected by the project;
17. Determine Real Estate that would be required to do a grade separation;
18. Length and height of the crossing structure and its effect on cross streets;
19. Estimate the impacts on utilities;
20. Determine other effects to local traffic patterns;
21. Determine if there will be potential impacts to wetlands, streams, contaminated sites, endangered species, floodplain areas, recreational properties, and historic and archaeological resources;
22. Ability to maintain train service during construction of possible grade separation;
23. Initial estimate of all project costs (environmental, design, ROW acquisition, construction, CSS, railroad work, etc.);
24. Schedule meetings between local, county and state agencies and railroads involved;
25. Identify potential local/county and railroad funding contributions;
26. Develop maintenance of traffic plan that may be needed during construction.